

configured to turn on/off power of the display apparatus 1. Besides, the input unit 110 may receive various control commands regarding the display apparatus 1 from the user via the button group 111 without limitation.

[0049] Meanwhile, various buttons included in the button group 111 may include a push switch or membrane switch configured to sense pressure applied by the user and a touch switch configured to sense a contact of a body part of the user. However, exemplary embodiments are not limited thereto, and the button group 111 may include various input devices to output electric signals corresponding to a given motion of the user.

[0050] In addition, the input unit 110 may include a remote controller configured to receive a control command from the user and remotely transmit the received user control command to the display apparatus 1. In addition, the input unit 110 may include various known elements to receive the control command from the user without limitation. In addition, if the display panel 20 is implemented using a touch-screen type display panel, the display panel 20 may perform functions of the input unit 110 as well.

[0051] For example, the input unit 110 may receive a control command regarding the display apparatus 1 from the user via the button group 111, the remote controller, the touchscreen display, or the like as described above. Accordingly, the input unit 110 may transmit the received control command to the controller 170, and the controller 170 may control at least one of the elements of the display apparatus 1, which will be described later.

[0052] The content receiver 120 may receive various contents from various external devices. For example, the content receiver 120 may receive contents from an antenna configured to receive broadcast signals via a wireless communication network, a set top box configured to receive broadcast signals received via a wired or wireless communication network and appropriately convert the received broadcast signals, and a multimedia reproduction device configured to reproduce contents stored in a multimedia storage medium, such as a DVD player, a CD player, and a Blu-ray disc player.

[0053] Particularly, the content receiver 120 may include a plurality of connectors 121 connected to external devices, a receiving path selector 123 configured to select a path through which contents are received from the plurality of connectors 121, and a tuner 125 configured to select a channel (or frequency) to receive the broadcast signals while receiving the broadcast signals.

[0054] The connector 121 may include a RF coaxial cable connector configured to receive broadcast signals including contents from the antenna, a high definition multimedia interface (HDMI) connector, a component video connector, a composite video connector, and a D-sub connector to receive contents from the set top box or the multimedia reproduction device.

[0055] The receiving path selector 123 selects one connector to receive contents from the plurality of connectors described above. For example, the receiving path selector 123 may automatically select a connector 121 through which the contents have been received or manually select a connector 121 to receive the contents in accordance with a control command of the user.

[0056] In case of receiving broadcast signals, the tuner 125 extracts signals of a predetermined frequency (channel) from various signals received via the antenna, or the like. In

other words, the tuner 125 may select a channel (or frequency) to receive the contents in accordance with a user's command to select the channel.

[0057] When an image of the channel selected by the tuner 125 is received, the image processor 160 may provide an immersive image by determining at least one of a main target and a sub-target, which are targets for color conversion, and performing color conversion therefor. This will be described later.

[0058] The display apparatus 1 may also include a sound output unit 130.

[0059] The sound output unit 130 may output sounds upon receiving sound data from the content receiver 120 in accordance with a control signal of the controller 170. In this case, the sound output unit 130 may include one or at least two speakers 131 configured to convert electric signals into sound signals.

[0060] Meanwhile, the display apparatus 1 may include the display 140. Referring to FIG. 2, the display 140 may include a display driver 141 and the display panel 20.

[0061] Here, the display panel 20 may be implemented using a cathode ray tube (CRT) display panel, a liquid crystal display (LCD) panel, a light emitting diode (LED) panel, an organic light emitting diode (OLED) panel, a plasma display panel (PDP), a field emission display (FED) panel, and the like, without limitation. However, the display panel 20 is not limited thereto, and any known display devices to visually display images may also be used.

[0062] The display driver 141 may drive the display panel 20 to receive image data from the image processor 160 in accordance with the control signal of the controller 170 and display an image corresponding to the received data. The controller 170 will be described later in more detail.

[0063] Meanwhile, the display apparatus 1 may include the communicator 150 as illustrated in FIG. 2. The communicator 150 may include a wireless communication module 151 supporting wireless communication protocols and a wired communication module 153 supporting wired communication protocols and may support various communication protocols.

[0064] Communication protocols are classified into wireless and wired communication protocols. Here, the wireless communication protocols refer to communication protocols to wirelessly transmit and receive signals including data. In this case, the wireless communication protocols may include various communication networks such as 3G, 4G, Wireless LAN, Wi-Fi, Bluetooth, Zigbee, Wi-Fi Direct (WFD), Ultra Wideband (UWB), Infrared Data Association (IrDA), Bluetooth Low Energy (BLE), Near Field Communication (NFC), and Z-Wave, without being limited thereto.

[0065] In addition, the wired communication protocols refer to communication protocols to transmit and receive signals including data by wire. For example, the wired communication protocols include Peripheral Component Interconnect (PCI), PCI-express, and Universal Serial Bus (USB), without being limited thereto.

[0066] For example, the communicator 150 may transmit and receive various data such as images to and from an Internet of things (IoT) device via a base station by communication protocols such as 3G or 4G. Also, the communicator 150 may transmit and receive data within a predetermined distance by various wireless communication protocols such as Wireless LAN, Wi-Fi, Bluetooth, Z-wave, Zigbee, WFD, UWB, IrDA, BLE, and NFC.